



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,306	04/28/2004	Han-Chung Lai	12952-US-PA	3305
31561 7590 12/22/2006 JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			EXAMINER CHIENT, LUCY P	
			ART UNIT 2871	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 12/22/2006	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/709,306	Applicant(s) LAI, HAN-CHUNG	
	Examiner Lucy P. Chien	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/4/2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-11 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-6,8-11, 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/30/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1-6,8-11,14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission and of Song et al (US 6215541) and of Baek et al (US 6524876) in view of Matsumoto (US 5969780).

#### Regarding Claim 1,6,

The admission (Figure 1) discloses a scan line (110) disposed over a substrate 10), a redundant scan line (120) disposed over the scan line (110), a dielectric layer (130), disposed between the scan line (110) and the redundant scan line (120), wherein contact holes (132) are formed in the dielectric layer (130) wherein the scan line (110) is electrically connected with the redundant scan line (120) through at least one or more first contact holes that expose a portion of the scan line, a data line (40) disposed over the substrate (10) an active component (160) disposed adjacent to an intersection of the scan line (110) and the data line (140) and a pixel electrode (170) electrically connected to the active component (160) wherein the active component is controlled by the scan line (110) to write an image signal transmitted by the data line (140) to the pixel electrode (170).

Art Unit: 2871

Admission does not disclose more than three first contact holes wherein each first contact hole has a length in a range of about 20  $\mu\text{m}$  to about a length of the scan line

Song et al disclose (Figure 5) three contact holes connecting data line and redundant data line. Song et al does not disclose three contact holes connecting the scan line and redundant scan line. But it would have been obvious to have three contact holes connecting the scan line and redundant scan line to achieve the same objective as having three contact holes connecting data line and redundant data line to provide reliable connection between the lines.

Baek et al discloses (Fig. 19) four contact holes.

Matsumoto discloses (Column 5, rows 35-46) the size of the contact hole is about 20  $\mu\text{m}$  to achieve good electrical connection.

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission, Song et al, and Baek et al's four contact holes motivated by the desire to increase the reliability of the contacts between pads and drivers. (Song et al, Column 1, Row 47-48) to also include Matsumoto's contact hole size motivated by the desire to provide good electrical connection (Column 5, rows 35-46).

Regarding Claim 2,8,

The admission discloses (Figure 1) a data line (40) disposed over the substrate (10), and a redundant data line, disposed under the data line, wherein the dielectric layer is disposed between the data line and the redundant data line, and the dielectric

Art Unit: 2871

layer has contact holes wherein the data line is electrically connected with the redundant data line through at least one or more second contact holes that expose a portion of the redundant data line.

The admission does not disclose using more than three contact holes.

Song et al disclose (Figure 5) three contact holes (74, and the other contact holes next to 74) located to connect the scan line (24) and redundant scan line (84).

Baek et al discloses (Fig. 19) four contact holes.

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission, Matsumoto, and Song et al's three contact holes to include Baek et al's four contact holes motivated by the desire to increase the reliability of the contacts between pads and drivers. (Song et al, Column 1, Row 47-48)

Regarding Claim 3,9,14,

The Admission, Song et al, and Baek et al do not disclose the contact hole having a size in a range of about 20  $\mu\text{m}$ .

Matsumoto discloses (Column 5, rows 35-46) the size of the contact hole is about 20  $\mu\text{m}$  to achieve good electrical connection.

It would have been obvious to one of ordinary skill in the art, at the time when the invention was made to modify the admission, Song et al, and Baek et al to include Matsumoto's contact hole size motivated by the desire to provide good electrical connection (Column 5, rows 35-46).

Regarding Claim 4,10,15,

Art Unit: 2871

In addition to the admission, Song et al, Baek et al and Matsumoto as disclosed above, Matsumoto discloses (Fig. 4) the contact hole comprises a square (rectangle) hole.

Regarding Claim 5,11,16,

In addition to the admission, Song et al, Baek et al and Matsumoto as disclosed above, the admission further discloses (Figure 1, 160) the active component comprises a thin film transistor.

***Response to Arguments***

Applicant's arguments filed 10/4/2006 have been fully considered but they are not persuasive.

Applicant's argument that "Matsumoto substantially fails to teach contact hole for electrically connecting the data line and the redundant data line." Is not persuasive. Examiner used Matsumoto to show that the contact hole length to be in a range of about 20  $\mu\text{m}$  to provide good electrical connection. Therefore, the rejection is maintained.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2871

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/709,306  
Art Unit: 2871

Page 7

Lucy P Chien  
Examiner  
Art Unit 2871



**David Nelms**  
**Supervisory Patent Examiner**  
**Technology Center 2800**